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INCLUDING SYPHILIS

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THE JOURNAL OF CUTANEOUS DISEASES
INCLUDING SYPHILIS

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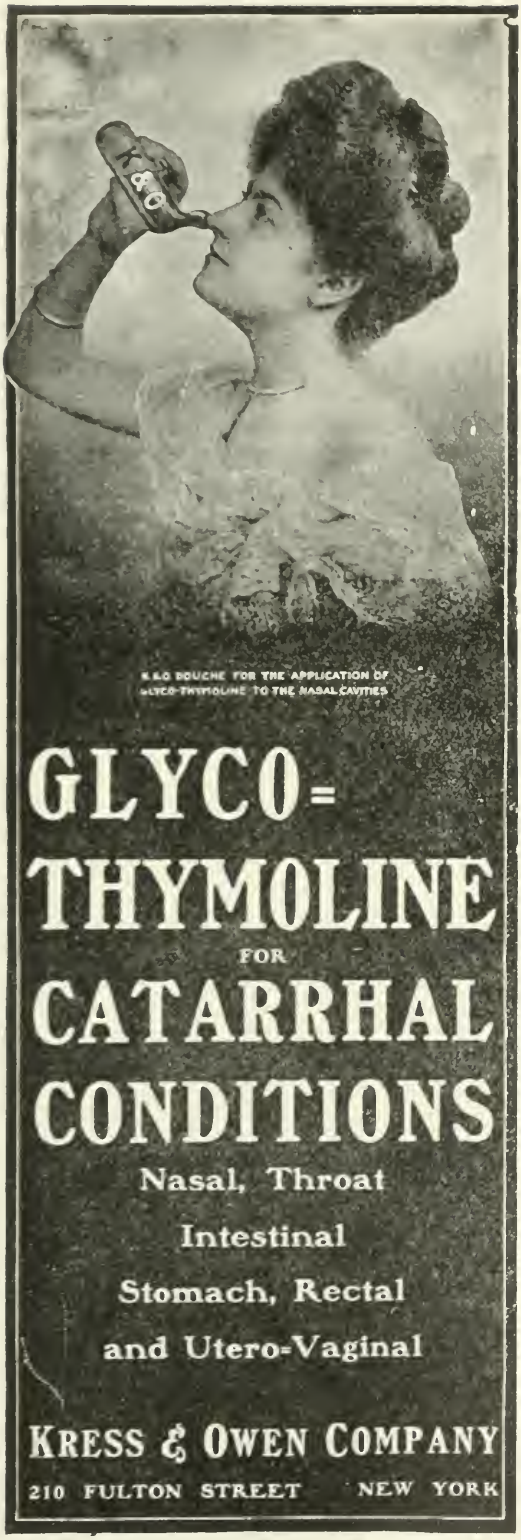

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THE JOURNAL OF CUTANEOUS DISEASES

VOL. XXVI. MAY, 1908. No. 5

HYDROA PUERORUM (UNNA)

By Dr. MARCUS HAASE, Memphis, Tenn., and Dr. ROSE HIRSCHLER, Philadelphia, Pa.

Read before the Sixth International Dermatological Congress, New York, September 9-14, 1907.

IT seems fateful that eighteen years after Unna [1] so nobly defended the teachings of Bazin your authors should find it necessary to appear before this international body and ask for the proper recognition of a work which so clearly defined the disease under consideration that it seems almost incomprehensible that the English and American authorities should have classed it as they have—under that horribly disfiguring dermatosis, hydroa vacciniforme.

Crocker,[2] under the general head of hydroas, speaking of dermatitis herpetiform, says "Unna's hydroa puerorum is a subvariety," but under the title of hydroa vacciniforme seu æstivale uses it as a synonym of this disease, although in the text he does say that "it must be admitted that Unna's cases differ somewhat from the others in several respects, one important difference being that the vesicles and bullæ were quite superficial and left no scars and often the lesion stopped short at an early stage or remained as papules."

Jackson [3] classes hydroa puerorum under hydroa vacciniforme, and says it occurs mostly in boys and on exposed parts. . . . Vesicles are prone to become depressed in the center and resemble vaccine vesicles. Scarring apt to result . . . Clinical relation to bullous erythema and herpetiform dermatitis, though differing from them in leaving scars.

Pusey [4] uses the term hydroa puerorum as a synonym for hydroa vacciniforme without any qualification, and in a footnote says: "Hydroa was a name formerly given to many bullous eruptions: the only disease in which the name survives is hydroa vacciniforme."

Stelwagon [5] also uses the name as a synonym for hydroa vacciniforme, but in the footnote on literature quotes Unna's article in the *Monatshefte* as questionable cases.

Hyde and Montgomery,[6] under the title of hydroa vacciniforme, uses hydroa puerorum as a synonym, but in the text classing it with hydroa aestivale and summer prurigo, says: "The eruptions differ from those of hydroa vacciniforme chiefly in being acuminate papules of a light reddish hue with minute vesicles, which are not umbilicated, and scarring is comparatively slight. The disease is found in girls, though less frequently than in boys."

All this after the title of Unna's paper was: "Concerning Duhring's Disease and a New Form of the Same."

Was all this confounding of two diseases due to his description of one case in which the majority of lesions appeared on the face, ears and neck, or was his defense of Bazin's classification taken as a report of cases of that disease (hydroa vacciniforme) which he, Bazin, was the first to so clearly define?

The case reported below was seen by one of us with Dr. Unna in his private clinic in Hamburg in October, 1906. He said it was a typical case of what he meant by the term hydroa puerorum.

The previous history given was furnished by the mother of the child, a woman of much more than ordinary intelligence:

S. E. M., age eight, male, white, of English birth.

Family history unimportant. There is one other child in the family, a girl, who is unaffected.

Previous history: Had pertussis at seven months. Rubella at three years, varicella at five years. No other contagious diseases. General physical condition good.

History of previous attacks: First attack began in infancy, spots occurring at different times, attributed by the mother to teething.

In the summers of the second and third years, he had several very severe attacks, blisters varying in size from a pin-head to a three-penny-piece, on all parts of the body except his head.

This occurred three or four times in the summer, one efflorescence succeeding another before the preceding one had completely disappeared, but these efflorescences were less severe than the original outbreak.

There would then be a period of quiescence lasting from two weeks to four months, when the lesions would again appear.

During the winter of his second year he had two mild, but distinct attacks, and each winter since, the same condition has been noted.

The eruption was less severe during his fourth and fifth years, but in both these years it appeared twice on the face, three or four spots occurring in that region, but healing much more quickly than those on the trunk and limbs.

Each year since he has had attacks, but none so severe as those that occurred during his second and third summers.

In August of this year, he had rather a severe attack, the lesions appearing first on the back and chest, then on the legs, arms, hands and feet in the order named. Later three lesions appeared on the face, but these disappeared in three or four days.

On two occasions, mild acute attacks, followed visits to the dentist.

The child is unusually quiet, not inclined to play just previous to or during the attack.

Present history: October 16, 1906.

Patient a blonde, appeared to be a fairly well developed child, fond of out-door life, but of a nervous temperament, no lung or cardiac disease.

Upon examination, no scarring is found except one small pit upon the forehead, which the mother insists is the remains of an infected varicella vesicle.

Present attack began on the 10th inst., with one small lesion on the right cheek, which when seen was covered with a pale yellow slightly adherent crust. On the 12th, four lesions appeared on the back, quickly followed by others, and at present they are now sparsely disseminated over the trunk and extremities, some thirty lesions in all. *No others appeared on the face, nor are there any on the ears or hands.* The lesions began as erythematous patches, irregular in outline, varying in size from a pin-head to a thumb-nail, accompanied by intense itching and burning. Within 12-15 hours minute, tense vesicles appeared upon these erythematous bases. These vesicles are decidedly superficial, easily ruptured through scratching, which relieves to a considerable degree the subjective symptoms. In the majority of instances, these vesicles coalesce and form bullæ. They contain clear to a straw-colored serum, are not pustular, except when extraneously infected. Yellowish crusting follows. No ulceration. In a few days, crusts fall off and leave red stains with *no scarring.* We saw no erythematous patches that remained as such. Biopsy made from lesion over left tendon Achilles.

October 17, one new lesion on dorsum of fourth toe, right foot.

The crust on right cheek had fallen off, leaving a deep red stain. There was no pitting. Urinary analysis made. Appended. October 18, no new lesions appeared. An unsatisfactory blood examination was made October 17. A second one done on October 20. Both appended. When seen on October 20, crusts from three of the first lesions occurring on the back had fallen off, leaving stains similar to that on the cheek. There was no scarring in any of these.

Crusting continued up to time patient was last seen.

The disease has only recurred twice since this attack. A moderately severe attack occurred in February, beginning on the

eighth, lesions appearing first on the buttocks quickly followed by a similar condition on the back, abdomen and legs, in all about twenty-five bullæ.

An insignificant attack occurred on the 23d of July, confined to the extremities and limited to eight lesions, three on the outer side of right calf, two on left leg and three on right forearm.

In neither of these attacks did any lesions appear on the face, ears, hands or feet. The first attack this year lasted about eight days, the second one in July crusting and falling off in five days.

Histopathology:

Upon studying the sections made from the biopsy one is forced to the conclusion that the disease is an acute inflammatory affection, with destruction of its component elements rather than proliferative growth. Vesiculation is the ultimate outcome of the process. The factors productive of the vesiculation must be of a less violent action than some of our vesicular diseases, as in no instance is there visible a sudden, sharp uplifting of the epidermis in toto, forming a solid, overhanging roof.

The serous exudation into the epidermis must be a slow process. There is seen through the prickle layer an intense inter-cellular œdema, the intensity varying irregularly throughout the whole depth of the rete, being of course greatest through the central area of the biopsy. The œdema is such that it stretches the protoplasmic processes to their utmost, frequently compressing the exoplasm, thus reducing the size of the cell. This is observed in the upper part of the rete. Again the compression has proceeded further, so that in some areas the cell wall has given way, freeing the nuclei into scattered groups, allowing them to float in small spaces, which form the early start for small vesicles. This type is found in greater numbers in the upper rete layers.

As the inter-cellular fluid increases in amount and the protoplasmic bridges give way, larger vesicles are formed. The nuclei gradually break from their boundaries and float as part of the vesicular contents. Some of the epidermal cells resist the dissolving power of the serum, but are not able to retain their shape. They become pressed into long, narrow cells, some spindle-shaped with elongated or crinkled nuclei and hang as bands downward from the roof, connect sometimes with the floor below or hang loose, or join with a nearby streamer, thus forming multilocular cavities.

The nuclei sometimes have their shape preserved. They are never œdematously swollen and are never ballooned. They are more apt to be crinkled and irregular.

The base of the vesicles may have a narrow or a broad zone of basement cells or none at all. The lateral walls of the large vesicles usually have their cells long and narrow. In the small vesicles the cells seem to have melted away, leaving but their nuclei, while the neighboring processes form their boundaries. The roof of the larger vesicles has always held firm, unyielding corneum and some portion of the granular layer, two rows of which are generally present; some of the smaller ones have also several layers of undisturbed rete. There have been no nucleated corneus cells found. There has always been a clean sweep through the whole section of normal horny cells.

A very few vesicles have been found between the granular and horny layers, the granular layer appearing cloudy from œdema, taking the stain poorly. A few of the vesicles appear to be in the act of crust formation with exfoliation without causing much downward pressure.

In the peripheral regions of the sections beyond the vesicular areas the prickle cells have œdematous swelling without the intense inter-cellular pressure. Here the epithelial plugs seem rather broad and full, with no mitoses. In fact, there is no mitosis anywhere to be seen in the rete, and no evidence of any newly formed cells. The contents of the vesicles consist of granules and thread of fibrin. Intermingled in the meshes are the nuclei and an occasional isolated undissolved epithelial cell, minus its nutrient processes, also granular débris. The most marked feature is the multitude of mono and multinuclear leucocytes. They swarm the vesicles, especially at their bases and in the very small amount of corium present.

After repeated attempts no eosinophiles can be found. Leucocytes are found everywhere. They roll and wedge themselves in from the germinal layer up through the granular stratum almost into the corneum. Mast cells are present throughout, being most conspicuous at the vesicular floor.

One scarcely would believe that scarring would be present, though the vesicles sometimes maintain the whole depth of the epidermis.

It would appear that there would be sufficient basal epithelial cells left to renew the broken continuity, preventing at least any breadth of scar. (Poly. Meth. Blue, Iron Hemat. and Eosin, Del. Hemat. and Eosin, and other stains used.)

It will be remembered that in Bowen's [7] cases many vesicles become depressed in the center and resemble vaccination vesicles, and

around the umbilicated center there is often a ring of fluid and a dark red areola. Dark blue or black centers due to the necrotic and hæmorrhagic corium are seen through the overlying vesicles. Necrosed centers becoming converted into thick black crusts are detached with difficulty, leaving deep scars, "permanent variola like." In sections from one of the biopsies he found that necrosis extended down throughout the entire epidermis and through the corium, ceasing a short distance only from the subcutaneous tissue. A second biopsy from the same case of Bowen's, consisting of a small primary vesicle without the typical central discoloration, showing a vesicle in the center of the rete without the necrosis, as in the first biopsy. But this was not characteristic of the lesions. He says that as far as these sections indicate, "the disease begins as an inflammation in the epidermis and upper part of the corium in circumscribed areas, and speedily results in the formation of vesicles in the rete. In these lesions they do not end here. the epidermis and corium underlying, deep down, become necrotic, all of which show and give rise to the dark red center seen in the well-developed lesion, and to the dark violet points as described."

In McCall Anderson's [8] two cases of hydroa æstivale the lesions were limited to the face, ears, neck and hands, and the vesicles which broke with crusting left severe scarring, even to the point of contractures. Unfortunately there was no biopsy made in these interesting cases. However, here, as in Bowen's, there must have been a deep necrosis, much deeper than the epidermis.

In J. C. White's [9] article on hydroa vacciniforme, he claims that the lesions left scars and pits and that excoriations and crusts were present with the lesions: and he has observed other instances of children where the lesions were confined to the ears and backs of hands, characterized by umbilicated and necrotic conditions, recurrence and cicatrices, and that these are typical of Bazin's disease, hydroa vacciniforme. In his article he quotes Duhring to have said: "I believe scarring may occur in dermatitis herpetiformis, but it is rare, especially in a marked form, and I regard such cases as peculiar, that is, where scars exist a year or two after the eruption had disappeared." White here also says that "Unna's hydroa puerorum is certainly a different affection."

Handford [10] reports a case of hydroa æstivale in which the disease was limited to the face and left scars, and mentions a case of Mr. Hutchinson, described at a meeting of the Clinical Society of London, December 14, 1888, that had been under Mr. Hutchinson's

observation from the years eight to twenty, and which, while disseminated over the whole body, was sparse on the trunk, worse on the hands and face, and especially severe on the ears, and "his face was scarred all over, as if from smallpox, and the ears were reduced to a gristle covered by thin scars." The patient was never wholly well excepting in cold weather.

Elliot [11] believes his case to be the same as Tilbury Fox's hydroa simplex, in which there was little crusting and no scarring. A biopsy of a freshly occurring lesion was made. In this section work the stratum corneum was broad and well defined, with loosened and separated layers, especially near the vesicles, but marked around "that portion of the sweat ducts which passed through it," and over some of these latter it was raised, forming vesicles. The nuclei were retained almost to the surface. The stratum lucidum was scarcely demonstrable, and the stratum granulosum was seen limited to a single layer.

The rete near the vesicle became acanthotic, more than doubling itself. The cells became long and narrow, slightly granular and somewhat loosened, nuclei occasionally absent, but as a whole they were well stained.

He speaks of its being an inflammatory reaction, but does not speak of the marked stream of leucocytes into the vesicles and surrounding areas.

In his summary he concludes "that the point of origin of these lesions is primarily in the epithelia of the sweat ducts just below the horny layers of the epidermis, extending from there to the rete: and that the secondary symptoms are those of inflammation seated especially in the papillary layer."

One can see that there are a number of differences between the histology of this case and that of ours.

In the specimens of hydroa puerorum no connection was seen between the coil glands and the vesicles.

In Gilchrist's [12] report of a case of dermatitis herpetiformis of Duhring, he says that it is apparent that the vesicles are formed gradually between the epidermis and the corium. That the changes have chiefly occurred in the upper part of the corium, which shows an invasion of the acute process. He speaks of first a few wandering polynuclear leucocytes in the epidermis, but "by no means numerous." In one or two places, especially near the large vesicles, a few vesicular spaces occurred in the epidermis, but connected with the vesicle below. No mitosis was present. Some of the nuclei were

shrunken and appeared to be situated in a vacuole. No alterations were noticed in a sweat duct appearing to pierce it. On account of the pressure from the vesicle the cells of the overhanging epidermis were somewhat flattened.

Some eosinophiles were found in the vesicles. The corium was most markedly affected. Many polynuclear leucocytes were found here, as well as mononuclear cells and undoubted eosinophiles. These eosinophiles seemed to be prominent, "even under low power." As the stages grow later, the leucocytes grow in numbers, apparently being the main changes, but no corresponding growth of eosinophiles. Later still, the papillæ grow larger, obliterating the interpapillary spaces and increasing the size of the vesicles, with a corresponding increase of cells. "The greatest variety of cells are seen at the base of the vesicles."

In a sort of a summary there is noted that dilatation occurs first in the blood-vessels in the upper part of the corium, particularly the papillæ, serum exudation as evidenced by coagulated albumen, with emigration of polynuclear leucocytes, eosinophiles, and fibrin in the connective tissue. Then there is a massing of polynuclear leucocytes chiefly in the upper part, with displacement of papillæ. As this increases, diapedesis of eosinophiles is more noticeable. This continues until sufficient to produce vesiculation.

Pitting and scars occur with this disease because the vesicle is entirely beneath the epidermis, which is simply raised in a mechanical manner by the inflammatory exudation beneath. The epidermis is in itself normal, although over the vesicle it appears flattened out. The process is an acute one, as seen by the polynuclear leucocytes. The changes do not extend very deep into the corium. The glands are unaffected.

Gilchrist says that here the picture does not entirely agree with Unna's, although the changes have occurred in the corium in the papillary bodies, and the vesicles were formed beneath the epidermis. In this case he (Gilchrist) believes that the process was more acute.

Others have agreed in the report of the diapedesis of eosinophiles. It is certain that there are none present in the specimens we have of hydroa puerorum. It may be that the process, though acute, was, as has been said before, not so acute as to create the outpouring of eosinophiles, but sufficient to produce the outpouring of polynuclear leucocytes.

The findings of Gilchrist correspond more with our findings than the other men's in their hydroa vacciniforme.

The sudden stream of leucocytes and serum into the epidermal tissue would account for the preliminary erythema and swelling. It can be seen that deeply seated small vesicles may exist under a firm, horny roof, and still present grossly the appearance of papular lesions. The multiplicity of the vesicles may also be evidenced as true vesicles in groups, or grossly as isolated vesicles, while isolated there are microscopically more present.

Brooke,[13] who reports two typical cases (one in a girl) of hydroa vacciniforme, quotes from the report of Buri's [14] case, who in turn quotes Bazin's [15] original article describing the disease, as follows:

"Hydroa vacciniforme is a rare and little known affection. The majority of cases were taken for syphilis and scrofula. They were of long duration and resisted the most varied methods of treatments. Symptoms . . . appears first after an exposure to fresh air or to the rays of a powerful sun. Some feeling of malaise and loss of appetite often accompanies the outbreak. The eruption often shows itself primarily upon the unclothed parts of the body, especially the nose, the cheeks, the hands, and later upon the other parts. Red patches are first noticed, on which transparent vesicles of herpes appear. From the second day the vesicles present a distinct dell; they soon lose their transparency, and at this moment they resemble a variola or vaccine pustule; in a short time a crust forms extending from the center towards the periphery. In some patients the numerous scars give a distinct impression of a previous variola, in others the sero-purulent secretion and the thick crust would lead one to the belief that the case was one of impetigo, did not a few outlying efflorescences in the course of development prevent such an error. The affection often drags on for months, owing to the development of constant fresh eruptions. In one case it lasted six months continuously. Relapses are frequently seen originating from the changes in the temperature."

After the foregoing, we do not think there can remain any doubt in your minds that these are separate and distinct diseases.

Clinically there are but two similar features: first, that the lesions are grouped vesicular ones; second, they both occur in young males. There the similarity ends.

In hydroa vacciniforme the disease occurs almost exclusively on the face, ears, and hands. The grouped vesicles coalesce, form bullæ, become umbilicated with dark blue or black centers. The crusts are thick and black and are very adherent, and upon removal leave dis-

tinct ulcers, and the ultimate outcome of the process is variola-like pitting and scarring.

In our case of hydroa puerorum, the face was the region least affected, the trunk and limbs being the most seriously involved.

The grouped vesicles or bullæ were never dark, being from a clear to straw color. There was no umbilication. The crusts were light yellow and slightly adherent, and when removed left only deep red stains. There was never any pitting. All of this is true of the five cases reported by Unna, except one in which the majority of lesions appeared on the face.

In hydroa vaccini-forme the heat of the sun, and to a less degree cold winds, are the exciting causes. This is not necessarily true in hydroa puerorum, as evidenced by the two attacks following visits to the dentist, and the attack which we were fortunate enough to witness, which began on October 10, in exceedingly mild and pleasant autumn weather.

As to the histology of the two diseases, there is even a more marked difference than in the clinical pictures as is shown by comparing the findings of those quoted with our own.

In Unna's article he describes hydroa puerorum as a form of Duhring's disease. Can this position be sustained to-day? We do not think so.

Few cases of Duhring's disease have been reported as occurring in children, none beginning in the first year. The youngest on record we believe to be three years of age, reported by Crocker.

Hydroa puerorum begins in the first year. In Duhring's disease, the lesions are polymorphous. In hydroa peurorum, the polymorphism is decidedly limited.

The duration of Duhring's disease is from three weeks to as many months. Hydroa puerorum is a disease of short duration, attacks rarely lasting over fifteen days.

In Duhring's disease, male and female are alike susceptible. In hydroa puerorum, only the male is attacked.

The difference histologically is much more marked as is shown in Gilchrist's masterly description of his findings, and Unna [16] summarizes the histological condition as follows:

"The œdema and cellular infiltrations corresponding to a vesicular area of the skin whose chief seat is in the papillary body, the utterly passive behavior of the epithelium which only presents œdema and inter-epithelial blisters, or is completely elevated by serum and finally the complete absence of leucocytes."

In claiming for this disease a place in our nomenclature as a dermatological entity, we offer the following description culled largely from the original:

First, an acute erythemato-vesicular disease, preceded and accompanied by intense burning and itching.

Second, the vesicles coalescing to form bullæ.

Third, involution of lesions without pitting and scarring.

Fourth, the first attack occurring in the first year of life.

Fifth, recurrence of attacks independent of external influences.

Sixth, gradual lessening of attacks in extent, intensity, and duration.

Seventh, spontaneous disappearance at puberty.

Eighth, unrestricted as to any particular region.

Ninth, restricted to male sex.

Tenth, relatively normal health during attacks.

Eleventh, to this may be added the superficial character of the disease, the lesions being confined to the rete.

We acknowledge with thanks our indebtedness to Dr. Unna for allowing us to study the case and to Dr. Carl Enoch of Hamburg, for urinalysis and blood examinations.

URINALYSIS

REACTION	ACID
Spec. Gravity	1.027
Total solids	6.29%
Albumin	none
Sugar	none
Acetone	none
Bile pigment	none
Chlorides	.76%
Phosphates	.243%
Uric acid and urates	.033%
Urea	1.38%

Residue—sulphates, etc.

BLOOD EXAMINATION

October 17, 1906:

The counting of the red blood corpuscles showed the normal number of 4,800,000.

The proportion of the red to the white blood corpuscles could not be ascertained, as in five preparations not one leucocyte was found on the counting chamber. Only in the sixth preparation one leucocyte was found outside the chamber.

The stained preparations did not show any difference from the normal, aside from the fact that we found that here also the number of leucocytes appeared diminished.

However, as the above finding may have possibly been accidental, I would recommend a second counting.

October 20:

Hæmoglobin	67%
Red corpuscles	4,596,000
White corpuscles	8000

There was no increase, rather a diminution of eosinophiles.

(Signed) Dr. Carl Enoch.

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FRAMBOESIA TROPICA (YAWS, PIAN, BOUBA).

By Aldo Castellani, M. D.,

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(Concluded from page 168)

INOCULATION OF MONKEYS WITH THE BLOOD OF THE GENERAL CIRCULATION FROM A YAWS PATIENT

About 5cc. of blood was withdrawn (September, 1906) with all aseptic precautions, from a vein at the bend of the elbow of a patient suffering from a typical yaws eruption on the legs, back, and face, but not on the arms; the needle, therefore, could be inserted through a perfectly normal skin without touching any yaws element. One cc. of the blood was well rubbed into deeply scarified spots on the right eyebrow of a macacus. Thirty-three days later a small deeply raised brownish papule appeared. Before the papule became moist a scraping was taken and stained with Leishman's method according to the directions already given by me. Numerous individuals of the spirochæte pertenuis were present. The papule slowly enlarged and became covered with a crust. The lesion disappeared within three months; no other elements developed.

This experiment shows that:

1. Monkeys can be successfully inoculated with the blood of a yaws patient.

2. The spirochæte pertenuis is, at least temporarily, present in the blood of the general circulation, though, so far, I have not been able to detect it microscopically.

INOCULATION OF MONKEYS WITH THE SPLENIC BLOOD DERIVED FROM A CASE OF YAWS

About 1cc. of splenic blood was obtained by puncturing the spleen of a patient affected with typical yaws. Films showed that the spirochæte pertenuis was present, though very rare. The splenic blood was inoculated in two monkeys of the genus macacus (*Mac. pileatus*) with the usual technique. Result positive in one monkey, a frambœtic papule developing after an incubation period of thirty-six days; the result was negative in the other monkey.

INOCULATION OF MONKEYS WITH THE CEREBRO-SPINAL FLUID OF YAWS PATIENTS. NOVEMBER, 1906

Four monkeys (two *Macacus pil.* and two *Semnopithecus priamus*) were inoculated with cerebro-spinal fluid derived from three different patients affected with yaws. The c.-s. fluid was in all the cases perfectly limpid; on centrifugation did not show any sediment, and the spirochæte pertenuis could not be found, though it was present in the skin lesions of the same patients. Up to date (July 15, 1907), eight and a half months after inoculation, the result has been negative.

INOCULATION OF FILTERED YAWS VIRUS. SEPTEMBER 14, 1906

The scrapings from non-ulcerated human papules containing the spirochæte pertenuis in such abundance as is seldom the case—and no other germs which could be detected microscopically or by cultural methods—was mixed and well triturated with normal saline solution. Preparations made from this mixture showed many individuals of spirochæte pertenuis. Part of the mixture was then inoculated, with the usual technique, into two monkeys of the genus macacus (*Mac. pilcatus*). The rest of the mixture was filtered through a Berkefeld filter (12a); preparations made from the filtrate did not show presence of the spirochæte. The filtrate was inoculated into three monkeys of the same species (*Mac. pil.*) and one *Semnopithecus priamus.* Both monkeys inoculated with the unfiltered material developed—one after twenty-five days, the other after forty days, frambœtic papules at the seat of inoculation, covered by a thick crust. Films made from the scrapings of the frambœtic lesions of both monkeys contained the spirochæte pertenius. The four monkeys inoculated with filtered material have not shown any eruptive element, either at the place of inoculation or in any other region of the body, though ten months have elapsed since the inoculation. This experiment tends to prove that the spirochæte pertenuis is the true cause of yaws, as when it is removed from yaws material, the latter is no longer infective.

INOCULATION OF SYPHILIS IN MONKEYS PREVIOUSLY INOCULATED WITH YAWS

Monkey No. 4 (*Mac. pil*). This monkey was successfully inoculated with yaws in February, 1906. On June 16, 1906, the scrapings from a primary sore of a syphilitic patient was well rubbed in scarified spots on the prepuce of the monkey's penis. On the twenty-

sixth day after inoculation a small vesicle surrounded by a reddish halo appeared. The vesicle broke, leaving an erosion surrounded by infiltrated tissue. The glands of both groins became enlarged and hard, and could be easily felt. No secondary eruption appeared, but, as shown by Metchnikoff and Roux, this is almost always the case when experimenting with monkeys of a low type.

Monkey No. 11 (*Mac. cyn.*), September 10, 1906. Inoculation of human yaws taken from a non-ulcerated papule, on the left eyebrow, and human syphilitic virus on the right eyebrow. The syphilitic material was taken from the primary sore of a man. After thirty-two days the left eyebrow, inoculated with yaws, showed three small flattened papules which fused together into an elevated mass the size of a pea, covered by a thick crust. The right eyebrow, inoculated with syphilitic material, thirty-nine days after inoculation presented a tiny brown crust, which soon broke and became covered with a slight crust. As regards the appearance of the yaws and the syphilitic lesions the yaws lesion was larger, more elevated, and covered by a much thicker crust. The syphilitic lesion disappeared after two months, while the frambœtic one is still present.

TRANSMISSION OF YAWS FROM MONKEY TO MONKEY

Monkey No. 21 (*Mac. pil.*) was inoculated on the left eyebrow with human yaws virus taken from a non-ulcerated papule, on September 19, 1906. From the infiltrated spot which appeared four days later, and which contained the spirochæte pertenuis, a scraping was taken and inoculated on November 22, 1906, in three monkeys of the same genus and species, and four monkeys of a different genus (*Semnopithecus priamus*).

Of the three monkeys of the same species the results were in two cases positive, the incubation period being thirty-one days in one and forty-two in the other. Of the four monkeys of a different species one only gave a positive result,—after an incubation period of sixty-seven days.

INCIDENCE OF THE SPIROCHÆTE PERTENUIS IN MONKEYS INOCULATED WITH YAWS, IN COMPARISON WITH THE INCIDENCE OF THE SPIROCHÆTE PERTENUIS IN MAN SUFFERING FROM YAWS.

The results of the investigation are collected in the following two tables:

TABLE I.—INCIDENCE OF THE SPIROCHÆTE PERTENUIS IN MONKEYS INOCULATED WITH YAWS

Material investigated.	No. of monkeys examined	No. of monkeys in which positive results were obtained.
Primary lesion at the seat of inoculation.....	16	15
Framboetic papules which appeared some time after the primary lesion.....	3	2
Spleen juice	4	3
Bone marrow	4	1
Blood, general circulation.....	15	nihl
Smears from liver.....	4	nihl
Lymphatic gland	6	3
Brain substance	4	nihl
Cerebro-spinal fluid	4	nihl

TABLE II.—INCIDENCE OF THE SPIROCHÆTE PERTENUIS IN YAWS PATIENTS

Material investigated.	No. of case examined.	No. of cases in which positive results were obtained.
Primary lesion	6	6
Unbroken papules of the general eruption...	76	75
Ulcerated papules of the general eruption....	76	52
Blood of the general circulation.....	20	nihl
Spleen blood	5	3
Cerebro-spinal fluid	6	nihl
Lymphatic glands	11	6

Comparing Table I with Table II, it will be seen that the incidence of the spirochæte pertenuis is practically constant in the eruptive elements both in man and in inoculated monkeys.

In the monkeys I have experimented with, the eruption does not become general as in man; notwithstanding this, we must admit that in monkeys also we have to do with a generalized infection, as is proved by the presence of the spirochæte pertenuis in the spleen and lymphatic glands.

THE HISTO-PATHOLOGY OF EXPERIMENTAL YAWS

Monkey No. 4 (*Mac. pil.*).—In this monkey, nineteen days after inoculation, as already described, a small infiltrated spot appeared at the point of inoculation over the left eyebrow; the lesion became moist, the secretion drying into a thick crust and attaining the size of a sixpenny piece in about two weeks. Two months later, the first lesion being still present of the same size and with the same characters, four more papules appeared, two close to the first lesion, and two just above the upper lip. These papules remained always of small dimension and disappeared within three months. It is pos-

sible that these four papules were due to auto-inoculation by scratching; it cannot be excluded, however, that they might represent a partial secondary eruption comparable to the general secondary eruption which appears in man; it must be remembered that though the skin lesions in experimental yaws—with the monkeys I have used —are generally localized at the point of inoculation, the infection is general, as is clearly proved by the presence of the spirochæte pertenuis in the spleen of the animals.

On the 1st of June, 1906, the crust from the primary lesion was removed; from the raw elevated granulating surface a piece of tissue was cut, divided into small portions, and fixed in various ways (alcohol, sublimate, etc.); then imbedded in paraffin. Sections were stained with various methods (Pappenheim's, etc.). The two papules which appeared above the upper lip were also removed and investigated by the same methods. The results of the histological examination are briefly the following:

(1) *Primary lesion.*—(a) A well marked proliferation of the interpapillary processes.

(b) A cellular infiltration consisting of: (1) numerous typical plasma cells, found diffusely with no definite arrangement. (2) some extravasated polymorphonuclear leucocytes; (3) small mononuclear leucocytes, connective tissue cells, and a few mast cells. No true giant cells were observed. The fibrous stroma is very delicate and scarce.

(2) *Papules removed from Lip.*—Practically the same result, only the proliferation of the interpapillary processes is much less marked.

Comparing these results with those found by Macleod, Unna, Nicholls, Plehn, and myself, in man, it would seem that the histological structure is practically the same in human yaws as well as in experimental yaws.

THE BORDET-GENGOU IN YAWS

I have applied to yaws this reaction following the technique used in syphilis by Wassermann, Neisser, and Brück (See *Deutsch. med. Woch.*, May 10, 1906).

As is well known the principle of the reaction is this: when complement is mixed with the complex antigen + immune body, and afterwards some sensitized red cells are added, no hæmolysis takes place, as the complement has been already taken up by the complex antigen + immune body, and cannot, therefore, get fixed to the hæmolytic receptors.

If the complex antigen + immune body is absent, or only antigen, or only immune body is present, then the complement will remain free, and, on addition of the sensitized red cells, will get fixed to the hæmolytic receptors and hæmolysis will take place. From the absence or presence of hæmolysis we can, therefore, detect the presence or absence of the complex antigen + immune body. As the following experiments prove, it is possible to demonstrate the existence of specific yaws antigen and antibodies.

Experiment I.—To the extract of non-ulcerated yaws papules, containing abundantly the spirochæte pertenuis, some serum (heated to 55° C.) is added, derived from a monkey which has been successfully inoculated with yaws, and which had been afterwards treated at intervals with subcutaneous inoculations of yaws material. Then some fresh guinea-pig serum (complement) is added, and after a certain time some sensitized red cells, in my case goat red cells, treated with inactivated serum from a rabbit which had been inoculated several times with goat red cells.

Result: No hæmolysis.

The investigation is repeated, using the extract of papules taken from six other different cases of yaws.

Result: Constantly the same, viz., no hæmolysis.

Experiment II.—Same procedure as in Experiment I., using instead of the extract of yaws papules, the extract of leprosy nodules.

Result: Well-marked hæmolysis.

Experiment III.—Same procedure, using the extract of nodules taken from a case of pseudo-granuloma pyogenicum.

Result: Hæmolysis.

Experiment IV.—Same procedure, using instead of the extract of yaws papules the extract of syphilitic condylomata.

Result: Hæmolysis.

Experiment V.—Same procedure, using the extract of a syphilitic primary sore which presented numerous individuals of spirochæte pallida of Schaudinn.

Result: Hæmolysis.

Experiment VI.—Extract of yaws papules containing the spirochæte pertenuis, + serum (heated to 55° C.) of a monkey immunized for syphilis, + fresh guinea-pig serum, + sensitized red cells.

Result: Hæmolysis.

The experiment is repeated, using the extract of papules from

six different cases of yaws, always with the same result, viz., hæmolysis. It is to be noted that the serum of the monkey contained with certainty syphilitic antibodies, as by inactivating it and then adding to it the extract of a primary syphilitic sore, then fresh guinea-pig serum (complement), then sensitized red cells, no hæmolysis takes place.

Experiment VII.—Extract of yaws papules, + serum (heated to 55° C.) derived from a normal monkey, + fresh guinea-pig serum (complement), + sensitized red cells.

Result: Hæmolysis, well marked.

Experiment VIII.—Extract of spleen juice obtained by puncture of a case of typical yaws, + inactivated serum of a monkey immunized for yaws, + complement, + sensitized red cells.

Result: No hæmolysis.

Experiment IX.—Same procedure as in Experiment VIII., using, instead of the serum of a monkey immunized for yaws, the serum of monkeys immunized for syphilis.

Result: Hæmolysis.

The above experiments show that it is possible to detect specific yaws antigen in the yaws papules and in the spleen of cases of yaws; specific yaws antibodies in the blood of monkeys treated with inoculations of yaws material.

The Experiments IV., V., VI., IX. show also that yaws antibodies and antigen are different from syphilis—antibodies and antigen, and therefore syphilis and yaws cannot be the same entity.

COMMUNICABILITY OF YAWS. DO INSECTS PLAY A ROLE IN THE TRANSMISSION OF THE DISEASE?

As is well known, the disease is in most cases conveyed by direct contact from person to person, usually by absorption of the virus through some pre-existing abraded surface or small wounds or ulcerations which are frequently present on the skin of natives. The simple contact of the virus on normal skin is not sufficient to cause the infection: but very slight abrasions—as, for instance, those due to scratching—are sufficient for the entrance of the virus.

Women are frequently infected by their children, the primary lesion appearing often on the mammæ. In the native women of Ceylon the primary lesion frequently develops on the skin of the trunk just above the hip. This is due to their habit of carrying the child astride of the hip, as shown in Fig. 3. Any yaws element present on the scrotum and nates of the child will therefore be

continually rubbed against the skin of the mother and infection will take place through any slight abrasion already present, or that may be caused by the friction.

In my opinion, however, there can be little doubt that, in certain cases, insects may carry the disease.

It is very noticeable that flies eagerly crowd on the open sores of yaws patients. In the hospitals, as soon as the dressings are removed, the yaws ulcerations will become covered with flies, sucking with avidity the secretion, which they may afterwards deposit in the same way on ordinary ulcers of other people. Ants also are occasionally seen to go on the yaws ulcerations as well as on ordinary ulcers.

In Nuttall's classical work on the role of insects as carriers of parasitic diseases, several authors are quoted (Alibert, Hoish, Cadet, Wilson) who believe that the infection may be conveyed from one individual to another by flies. Wilson states that this belief prevails also among the natives of the West Indies.

I may quote some of the experiments I have made to prove that flies are instrumental in the dissemination of the disease:

Experiment I. (November 10, 1906).—Some scraping was collected from slightly ulcerated papules of a yaws patient. The spirochæte pertenuis was present, together with various other thicker spirochætes (S. obtusa, S. acuminata), but no bacteria. The scraping was placed in a sterile petri dish. Ten flies (*Musca domestica* and allied species), caught in the rooms of the Bacteriological Institute, were placed inside the petri dish and left there for half an hour. They fed greedily on the material; then the proboscis and buccal organs as well as the legs were examined for spirochætes, making extracts and films; in nine flies the spirochætes of the thicker type were found; in two also the spirochæte pertenuis. As control, five flies were caught the same day, in the same room, and examined at once, with negative results as regards the presence of the spirochætes.

Experiment II. (January 12, 1907).—Twenty flies were collected from the rooms of the Bacteriologic Institute. The buccal apparatus and legs of five of them were removed and examined by making extracts and films; no spirochætes of any kind were present. The other fifteen flies were divided into several groups, and placed on various semi-ulcerated papules of three yaws patients presenting the spirochæte pertenuis, and spirochætes of the thicker kind as are often found in semi-ulcerated lesions. The flies were kept in place

by covering the papules with a piece of gauze made to adhere to the skin by means of collodion all round the margin. All the flies fed greedily on the ulcerated papules. After two hours the proboscis and other parts of the mouth organs, as well as the legs, were removed, extracts and films made and stained. Out of the fifteen so examined, in fourteen it was possible to detect the coarse spirochætes, and in two the spirochæte pertenuis as well as the thicker ones.

TRANSMISSION OF YAWS TO MONKEYS BY MEANS OF FLIES FED ON YAWS MATERIAL

Experiment III. (November 15, 1906).—Thirty flies were fed in a sterile petri dish for half an hour on scrapings taken from non-ulcerated papules of a case of yaws containing only the spirochæte pertenuis. Three monkeys of the genus semnopithecus (*S. pria.*), and two of the genus macacus (*Mac. pil.*) were inoculated in this way; over the left eyebrow of each monkey very numerous deep scarifications were made: then five flies deprived of their wings, were applied to the scarified spots and kept there by means of a piece of gauze smeared with collodion at the margins. The monkeys had their legs tied together to prevent their removing the gauze. After two hours the gauze and the flies were removed. Of these monkeys, one, *Semnop. pria.*, after forty-five days developed a small infiltrated spot, which soon became enlarged and covered with a thick crust. The microscopical examination of the lesion showed the presence of the spirochæte pertenuis. The other five monkeys gave negative results.

Experiment IV.—Twenty-eight flies (*Musca domestica* and similar species) were caught in one of the rooms of the Bacteriological Institute. The legs and buccal organs of five were removed and examined for spirochætes, making numerous preparations with negative results. The remaining flies, deprived of their wings, were placed on two slightly ulcerated elements of a yaws patient. The flies were kept on the ulcers by means of a piece of gauze, the margins of which were made to adhere to the skin with a little collodion. The flies sucked readily the secretion of the ulcers. After one hour the flies were removed; meanwhile seven monkeys of the genus semnopithecus (*Semno. pria.*) had deep scarifications made over their eyebrows. Several flies which had fed on the ulcerated yaws lesions were placed on the scarified spots of each monkey and kept in place there for two hours by means of the device already mentioned.

One of the monkeys forty-six days after developed a slightly

infiltrated spot which slowly enlarged into a frambœtic nodule covered by a thick crust; the microscopical examination of films taken from this nodule showed the presence of the spirochæte pertenuis. In another monkey, sixty-seven days after inoculation, three tiny papules developed at the place of inoculation; they soon fused together into an infiltrated mass covered by a thick crust. Films made from scrapings of the lesion contained the spirochæte pertenuis.

The remaining five monkeys so far (March 15, 1907) have given negative results.

RESULTS OF THE INVESTIGATION

1. Monkeys are susceptible to yaws. The skin eruption in the monkeys I have experimented with (*Semno. pria., Mac. pil.*) is, as a rule, localized to the seat of inoculation, but the infection is general, as is proved by the presence of the spirochæte pertenuis in the spleen and lymphatic glands; these experiments confirm the results obtained by Neisser and his co-workers.

2. The extract of yaws materials from which the spirochæte pertenuis has been removed by filtration becomes inert.

3. The extract of yaws material containing the spirochæte pertenuis, but, so far as our present methods of investigation permit us to say, no other germ, is infective to monkeys.

4. The inoculation of blood of the general circulation and spleen blood taken from yaws patients into monkeys, may give positive results.

5. The inoculation of the cerebro-spinal fluid of yaws patients is negative.

6. Monkeys successfully inoculated with yaws do not thereby become immune for syphilis.

7. Monkeys successfully inoculated for syphilis do not thereby become immune for yaws.

8. By means of the Bordet-Gengou reaction, it is possible to detect specific yaws antibodies and antigen.

9. Yaws antibodies and antigen are different from syphilitic antibodies and antigen.

10. The presence of the spirochæte pertenuis in monkeys experimentally inoculated, as well as in yaws patients, is practically constant in the unbroken eruptive elements. It is frequent in the spleen and lymphatic glands.

11. Yaws is generally conveyed by actual contact, but under

certain circumstances it may be conveyed by flies, and possibly by other insects.

PREDISPOSING CAUSES

Dirt and insanitation favor to a certain extent the development and spreading of yaws as well as any other infectious disease; the malady is extremely rare among Europeans and better class natives who live in good sanitary surroundings, while it is very common among villagers and low-caste natives who live in uncleanly and overcrowded huts. Sex does not exercise any influence, nor does age to a great extent, though the disease is somewhat more frequently met with in children and young people.

Food is mentioned by some Ceylon native practitioners as a very important predisposing cause; some inculpate a sort of fish called *balla malu*, others a fruit known as *rattadel* (breadfruit) and a kind of grain known as *kurrakkan* (nutcherry).

DIFFERENTIAL DIAGNOSIS

Verruga Peruviana.—This disease is strictly limited to certain valleys of the Andes at an elevation of from 3,000 to 10,000 feet. It is far more mortal than yaws, the mortality rising to thirty and forty per cent. It is often accompanied by severe fever of long duration; the eruptive elements of verruga peruviana often attack the various mucosæ and bleed with great facility.

Bubas.—In Brazil and other South American countries, frambœsia is known under the name of bubas. A few authors (Breda) are of the opinion that bubas is a different disease from frambœsia. Rivas, after a complete investigation of the disease, has come to the conclusion that bubas is identical with yaws, and that it is caused by the same organism, viz., the spirochæte pertenuis.

Syphilis.—The theory according to which yaws is a form of syphilis has now only an historical interest. The results of experimental investigations on yaws and syphilis prove clearly that the two diseases are different, inasmuch as:

1. Monkeys successfully inoculated with yaws do not thereby become immune for syphilis, and vice versa.

2. The yaws antigen and antibodies have been proved to be different from syphilis antigen and antibodies.

Syphilis is practically pandemic; yaws, on the other hand, is localized to some parts of the tropics. Yaws is extremely common in Ceylon, extremely rare in India. Syphilis is common in both countries. In Samoa, according to Turner, syphilis was unknown

up to at least 1880, while yaws has been endemic there ever since the group was discovered. In Fiji, too, up to a few years ago, syphilis was not present, while yaws was almost universal. Daniels has made the interesting observation that in British Guiana yaws of late years has disappeared, while syphilis is still rampant. As regards clinical features, yaws presents the following symptoms in contrast to syphilis: primary lesion generally extra-genital, principal type of eruption a papule which proliferates into a papillomatous growth; extremely well-marked pruritus.

The histo-pathology of yaws and syphilis, as pointed out by Macleod, Unna, etc., is somewhat different; in yaws the proliferative changes of the epidermis are much more marked, the yaws granulomata present a more diffuse plasma-cell infiltration, and their blood vessels have no tendency to thickening; naturally these differential histological details must be considered collectively, as there is no individual histological character which, exceptionally, might not be present both in syphilis and yaws.

PROGNOSIS OF YAWS

The prognosis is not serious *quoad vitam*. In Ceylon, in 1905, 3,535 cases were treated, with 25 deaths; in 1904, out of 3,591 cases, 16 died; in 1903, out of 3,254 cases 10 only died. The prognosis is much more serious in children than in adults.

When the disease ends fatally it is generally due to the ulcerated lesions becoming phagadenic, and to septicæmic and pyæmic processes. Though frambœsia rarely terminates in death, its long duration and great contagiousness make it a serious complaint. The patients suffering from it are not able to attend to their work; epidemics of yaws, therefore, acquire great importance in plantations of tea, sugar, etc., as they greatly reduce the supply of labor.

Prevention of yaws.—The slightest abrasions of the skin should be taken care of and properly treated with antiseptics in countries where yaws is endemic. The yaws patients should be prevented from mixing with the rest of the population, and should be isolated in special hospitals till the disease is cured; their huts and belongings should be thoroughly disinfected.

TREATMENT

The natives treat the disease in various ways; in Samoa the patient is rubbed down with sand and washed in the sea, and then the yaws are scraped with a shell. In the West Indies boiled and

beaten-up leaves of the "physic nut" are applied, or powdered alum and sulphur used.

In Ceylon, the *vederellas* (native doctors) apply concoctions of various herbs, and give decoctions of sarsaparilla and other roots. They use also mercury disguised in various ways. The majority of European practitioners use mercury and potassium iodide; others affirm these drugs to be quite useless, and believe that cleanliness and good and abundant food are quite sufficient to bring about a cure.

In the Colombo Clinic for Tropical Diseases I have made some experiments on the various treatments, and I have convinced myself that the potassium iodide treatment is the most effective of all. I do not deny that some mild case may recover spontaneously, but this is certainly the exception, not the rule. I kept, purposely, four typical cases of framboesia without any treatment for a certain time; one remained stationary, the other three became worse and worse. In one of these—a woman—I had, for humanity's sake, to give up the experiment after four weeks, numerous large fungoid ulcerations having developed. The symptom of which she complained the most, and for which she was continually begging some remedy, was the unbearable pruritus. As soon as the potassium iodide was administered this symptom decreased remarkably in intensity, and finally disappeared, the eruption also getting better.

The potassium iodide should be given in large doses (at least three to four grms. daily); I have little doubt that many reported failures of the treatment are due to the insufficient quantity of iodide administered, though occasionally cases are met with refractory to potassium iodide or to any other treatment. The yaws patients bear large doses well; when severe symptoms of iodism set in, the doses should be temporarily decreased or the treatment may be stopped altogether for a few days. Mercury is useful in many cases, especially in children, but it is as a rule less efficient than the iodides.

Local treatment consists chiefly in keeping the skin scrupulously clean, washing the eruption twice daily with a perchloride of mercury solution (1 to 1000) which greatly allays the itching. The ulcerated lesions may be dusted with iodoform, boracic acid, etc. Mercury ointments may be beneficial, but in my experience are not sufficient to hinder secondary pyogenic infections.

Caustics are not called for unless the ulcers become phagadenic; in such cases pure carbolic acid is best. Though the external treatment may be useful, one must bear in mind that it is not, as a rule, sufficient alone to cure the disease.

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NOTE ON A PALLIATIVE TREATMENT OF ELEPHANTIASIS

By Aldo Castellani, M. D.,

Director of the Clinic for Tropical Diseases Colombo (Ceylon).

IN elephantiasis, as shown by the histological researches of Crocker, Virchow, Unna, and others, the subcutaneous tissue is enormously hypertrophied from increase of fibrous tissue in various stages of development; most of it being in fibrous bands and networks, while other portions are gelatiniform with fine fibers, numerous nuclei and cells. Given these anatomical features of the disease, I thought that thiosinamin, which has been used by Hebra and others with success in cases of benign fibrous tumours, scars, etc., might be of some use in the treatment of elephantiasis, especially in cases of old standing.

As injections of thiosinamin are very painful, I have always used Fibrolysin (Merck), which is a water soluble combination of thiosinamin with sodium salicylate, and can be obtained in sterile glass ampullae, each containing 2cc. of liquid—corresponding to 0.2 grs. of thiosinamin.

Method of treatment.—Before beginning the injections I keep the patient in complete rest in bed for a week, bandaging the affected parts with flannel bandages, or india rubber bandages, and massaging them regularly twice daily. After these manipulations the affected parts do not show much improvement as regards size, but become much softer, and thus the injections are made with much more facility. I make the injections in various parts of the affected regions, using the ordinary antiseptic precautions. I use an antitoxin syringe supplied with a strong needle. A sterile pad of gauze is applied to the place of the injection and the part is firmly bandaged. The injections are almost painless; after two or three hours there may be a little local pain, and the following day the part may feel harder than before, but in the successful cases, after two or three days, the spot where the injection was made and the parts surrounding it become much softer. As regards dosage, I generally inoculate 2cc. of fibrolysin every day or every other day according to the features of the case, for about a month; then I stop the injections for a week, during which time I continue the

use of india rubber bandages, or begin it if I have been using ordinary bandages hitherto. This india rubber bandaging is most useful in cases of verrucosa elephantiasis; it has no action on the deep lesions of the disease, but it renders the skin much smoother, the hard verrucose-like projections disappearing or becoming smaller. After a week or ten days a second course of thirty or more injections is given; then again a week's rest with rubber bandaging, followed, when necessary, by another course of injections.

After this treatment the affected parts—in successful cases—are of much smaller size; the skin becomes softer, elastic, and can be pinched up in folds; the enlargement of the bones, however, so frequently found, does not decrease. After the treatment is over I advise the regular wearing of puttees or elastic stockings; if this precaution is not taken, in a few days the affected parts again become enlarged; it is to be noted, however, that this enlargement is due, apparently, simply to an œdematous infiltration—as a day or two of rest and proper bandaging are sufficient to make the swelling disappear.

To remove the superfluous skin which remains after most of the subcutaneous tissue has been absorbed, and which facilitates the œdematous infiltration, I have suggested, when the disease affects the legs, the removal of long elliptical strips of skin, stitching up together the margins of the wounds; this would not be practicable before the medical treatment, as the skin being enormously thickened and inelastic the coaptation of the opposed surfaces could not be obtained.

I have not observed any serious symptoms due to the thiosinamin: on one occasion a patient after the injection of a double dose (4cc. fibrolysin) complained of severe frontal headache, slight nausea, and general malaise which lasted for a few hours.

Case I. *Elephantiasis verrucosa of the right leg.*—Ganegada Singhappu, Singhalese lad of eighteen years of age; admitted to the clinic June 2, 1907. First symptoms of the disease appeared twelve years ago, when he suffered from repeated attacks of fever accompanied by painful temporary swelling of the right leg. Later on the enlargement of the leg became permanent, increasing gradually to such an extent that the patient had to give up his work; he was an indoor servant.

At the time of admission the whole limb below the knee was greatly enlarged, the skin being thickened, hard, and rough; on the dorsum of the foot and toes numerous horny prominences

were present. The limb measured round the ankle 23½ inches; round the calf, 25½ inches; the inguinal glands were not enlarged, the scrotum and the left leg were not affected.

No filaria was found in the blood.

The patient was first kept in bed for two weeks with the right leg slightly elevated and tightly bandaged with flannel bandage. Massaging was done twice daily. At the end of the two weeks the parts were slightly softer, but the dimensions of the leg were practically the same. The thiosinamin treatment was then started, using the precautions already mentioned.

The patient received altogether sixty-two injections; during the last period of treatment the limb was very tightly bandaged for one hour three times daily, with a Martin rubber bandage.

At the end of the course of injections the condition of the affected leg was strikingly improved; the circumference round the ankle being reduced to 9 inches; round the calf to 12 inches. Moreover the skin had become soft and of almost normal elasticity.

The patient, finding himself so much improved, able to walk easily—whereas when admitted he could scarcely move without help—asked to be allowed to leave the clinic for a short time as he had some business to transact in the village. I told him to use a flannel bandage continuously and to return to the clinic at the earliest date. He came back two weeks later, confessing that he had never used the bandages given to him. The lower part of the leg and foot were much enlarged (circumference round the ankle 12 inches), œdematous, soft. After twenty-four hours of complete rest in bed and rubber bandaging, the swelling disappeared and the measurements of the limb gave the same results as when he left the clinic.

The patient remained in the clinic; he was not given any more thiosinamin injections; he was allowed to walk; for one hour in the evening and one hour in the morning the use of rubber bandages was continued regularly; the limb did not enlarge. A short time ago I suggested that long elliptical strips of the redundant skin should be removed, and I asked Dr. Paul, surgeon to the General Hospital, to perform the operation. Dr. Paul very kindly consented and on July 24, 1907, the operation was performed. The patient was put under chloroform and an elliptical portion of the skin and subcutaneous tissue was removed; the maximum longitudinal diameter of the portion of skin removed was 11 inches; the maximum transverse diameter 3½ inches. The edges of the wound were brought in contact by means of an interrupted suture.

Since the operation the patient has complained for three days of some local pain; no fever. The stitches have not yet been removed.

Case 2. *Elephantiasis verrucosa of the right leg.*—The patient—a private case—consulted me in October, 1906. He was suffering from elephantiasis of the right thigh, leg, and foot, of twenty years' duration. The skin of the lower part of the leg and foot were extremely hard, inelastic, and covered with numerous small wart-like protuberances.

Measurements: Thigh, 25 inches; calf, 27 inches; ankle, 24½ inches. The patient underwent a treatment of ninety thiosinamin injections combined with complete rest in bed, and the use of flannel bandages at first, and india rubber bandages later. The case improved greatly, the skin becoming softer, more elastic, and much smoother. The circumference round the thigh was reduced to 21 inches; round the calf to 16 inches; round the ankle to 14½. The patient was able to walk with much greater ease.

I have seen the patient again recently; nearly five months after the injections were stopped: the dimensions of the affected limb now are: thigh, 22 inches; calf, 17½ inches; ankle, 16½ inches. The patient, following my instructions, has been wearing puttees, and has continued regularly the use of rubber bandaging twice daily for an hour. He states that if he stops the bandaging and the wearing of puttees even for two or three days, the leg becomes swollen and œdematous; the swelling disappears, however, after a few hours' rest and bandaging.

Case 3. *Elephantiasis of the left leg.*—The patient—a private case from India—had elephantiasis of fifteen years' duration localized to the lower part of the left leg and foot. He underwent a course of fifty-six thiosinamin injections, combined with rest, massage, and the use of rubber bandages. The improvement was very slight; the skin became somewhat smoother, but the dimensions of the affected parts remained practically the same. I think that rest, massage, and bandaging alone, without the injections, would have induced the same improvement.

Case 4. *Elephantiasis of the left leg.*—Singhalese woman; fifty-six years of age; admitted to the clinic April 2, 1907. The disease is of fifteen years' standing and is localized to the lower two-thirds of the left leg and to the foot, the skin thick and inelastic, but not so rough as in the other cases. Circumference round the ankle 19 inches. The woman was kept in bed for ten days and

the parts were bandaged with flannel bandages; skin softer, but dimensions of the limb practically unchanged. I then began giving the thiosinamin injections. She had thirty-five injections and she then left the clinic, wishing to visit her family, in a distant village. She was much better, the dimensions of the limb round the ankle being 11 inches. When the patient was admitted to the clinic she could not move her toes; on leaving such movements were easily made.

Case 5. Bennet Gregory—Singhalese boy æt. ten. Admitted to the clinic on June 25, 1907. Three years ago the patient began suffering from attacks of fever with contemporary swelling of the left leg and lymphatic inguinal glands of the left side. On admission the left leg and foot were greatly enlarged, the skin being thick and hard but with a smooth surface. Lymphatic inguinal glands of the left side were slightly enlarged and hard.

The measurements were as follows: Round the ankle, 12 inches. Treatment was begun on July 28, 1907. He received twenty-five injections and the limb was regularly tightly bandaged with flannel bandages, and for one hour every other day with rubber bandages.

On July 23 the injections were discontinued; they were resumed on the 29th of the same month. During the interval only massage and the use of india rubber and flannel bandages was continued.

After the first twelve injections a distinct improvement was noticeable, the parts becoming softer and the size of the limb smaller. On the 15th and 16th of July, however, the affected part again became enlarged and very hard, though there was no fever. This condition lasted for three days.

THE NEW YORK DERMATOLOGICAL SOCIETY.

354TH REGULAR MEETING, JANUARY 28TH, 1908.

DR. E. B. BRONSON, PRESIDENT, in the Chair.

Case of Lupus Erythematosus of Nose Cured by Liquid Air. Presented by DR. DADE.

The patient a woman 35 years old. When she first presented herself for treatment the lesion extended over the entire nose. Lesions are still in the scalp, to some extent. The patient was presented to show the excellent cosmetic results obtained by the use of liquid air. She had been treated for a year by other methods, with no result, but under the liquid air every vestige of the lesion has disappeared. The last application was made four months ago, eight applications in all having been made in going over the entire area, no two places having been gone over twice. This is one of the cases shown last autumn at the Dermatological Congress.

DR. WHITEHOUSE said that in cases where the scars were deep, efforts had often been made to cure with one very severe application. Like other potent caustics, if the liquid air is used a number of times with light applications, it yields a good result. It is four months now since the last application, and the cure seems to be permanent.

DR. FOX said that equally good or even better results can be obtained in lupus erythematosus by the use of the curette. The choice is simply as to whether one method is more troublesome or more painful than the other. There is a difference of testimony from patients, as to their preference for the use of liquid air or the curette. In one case shown at the International Congress the whole cheek was left perfectly smooth and with a more delicate skin than the patient had before. He had been treated with both the liquid air and the curette, and his preference was decidedly in favor of the curette as being less painful. Though there is no doubt as to the good results obtained with the liquid air, Dr. Fox was inclined to believe that the old method with the curette beginning at the edge of the patch and scraping toward the center was to be preferred. By applying carbolic acid, which anaesthetizes the parts to a considerable degree, the curette can be used over a large area, and ordinarily there is nothing left but a few scaly patches which can be removed subsequently without much pain.

DR. PIFFARD agreed with Dr. Fox that the curette is better than the liquid air and the result is equally good. He always applies the actual cautery afterward, and the cosmetic results are perfectly satisfactory, though you must destroy all the diseased tissue, as in lupus vulgaris. He had always believed it was a tuberculide, but the bacillus has rarely been found, though some claim to have found it.

DR. FOX suggested that some of those present, when they next have a case of lupus erythematosus on both cheeks or patches near each other, should try the liquid air on one and apply pure carbolic acid to the other, following it with the use of the curette beginning at the edge, and note the result of the two methods of treatment. He had used nitrate of silver as Dr. Piffard uses the

cautery or chloride of zinc, but found this to be attended with severe pain. If pure carbolic acid is used freely with the curetting, the pain is very slight, and none of his patients have objected to it.

Dr. Elliot said that he had seen lupus erythematosus get well under all kinds of treatment—lotio alba, mercurial plaster, scraping, cautery, constant application of absolute alcohol, trichloracetic acid, etc. It gets well under almost anything at times, but all cases do not get well under the same thing. He has at present a case in which the liquid air was applied thoroughly, with no effect, and the patient has improved under glacial acetic acid. Pure carbolic acid was tried on her also, but with no effect. Some will get well no matter what is done, and many will not.

Dr. Johnston said that frequently it can be handled only with difficulty while in a state of progression. The best thing then is to use the least irritating applications; a boric acid wet dressing may irritate. The subacute or chronic disease may be stimulated by any means and the resultant acute inflammation checked at any stage. The choice of means depends on the operator and is a matter of indifference except so far as his preference goes. Nitrate of silver, cautery, curettage, liquid air have no specificity.

Dr. Piffard said that much of the success of one man is due to the personal equation. He would not have the good result with liquid air that Dr. Dade has secured, and doubtless Dr. Dade would not secure as good a result with the cautery as he has, but that certainly is a good method, and in Laredde's Journal it is spoken of as the method of election and is attributed to Brocq, although he himself had published it in '77, and had insisted upon the actual cautery after the scraping. For a small patch he prefers the high frequency spark to anything else, but this method of treatment was not known 30 years ago. With the high frequency spark one can cure a small patch in a fraction of a second.

Dr. Dade, as Dr. Jackson says, results such as this case show are what we expect and get from the use of liquid air in the treatment of erythematosus lupus at the Vanderbilt clinic. It is generally conceded by those who have seen very much of the *fixed* variety of erythematosus lupus that there is no more obstinate form of disease, and by those who have used it in the treatment of this *fixed* form of erythematosus lupus that nothing, from the patient's standpoint, gives such good results as does liquid air, as Dr. Mewborn says it is the treatment *par excellence* for this form of erythematosus lupus.

Anaesthetic Leprosy. Presented by Dr. R. J. E. Scott, New York.

The patient a young man from the West Indies, presented himself for diagnosis and treatment three months ago. Had been under the care of his family physician for four years. The lesions first appeared on the abdomen, then on the thighs, buttocks, and arms. They have disappeared and returned, with the exception of the one on the abdomen which has remained constant. No diagnosis of the condition was made, and the boy knows nothing of his condition, nor do his parents yet. It is very important that he should have no clue as to the character of the disease. At first the patch appeared yellow, then grew darker. The color seemed to disappear from the center of the patch and go to the borders. Dr. Bronson has seen the case and found the ulnar nerve enlarged. The boy has headaches, but no illness of any kind. If it were not for the present condition he would be perfectly healthy. In answer to a question Dr. Scott said that the first lesion appeared four years ago. The members present all agreed with the diagnosis.

Dr. Fox said that these cases with rings are distinctly different from the tubercular form. He had once seen a case of an Englishman, a magnificent specimen of a man, who had been in the tropics. He was seemingly in perfect health, but his body was covered with these characteristic rings accompanied with anaesthesia, which made the diagnosis beyond doubt.

Dr. Bronson called attention to an observation of the physicians in Trinidad, where he had visited the large leprosary a year ago, that at its inception lepra was pretty regularly of the anaesthetic type, the cutaneous or tubercular form being a subsequent phase of the disease. The type commonly met with here was the "mixed," and the case now presented was interesting as being a comparatively recent one and of the pure anaesthetic type.

Case for Diagnosis. Possible Mediastinal Tumor? Presented by Dr. Mewborn.

The patient was a man 63 years old. He was first shown before the Society in March, 1907. He then had a gumma of the tongue, which cleared up under mercury injections.

Since a month he has developed this swollen condition of the neck, with pressure on the venous circulation of the face and neck. If the patient lies down his face and neck become cyanosed, livid, and his breathing is interfered with, although there is no trouble with his heart or lungs. There is, however, a new growth of some sort at the upper part of the thoracic cavity which presses on the superior vena cava. With his previous specific history, this aroused the suspicion that it might be in the nature of a gumma. If so, the case is interesting from the long period intervening between the contraction of the primary lesion (over 40 years). Fournier speaks of a gumma under the clavicle, pressing upon the subclavian artery. It is a year since he first applied for treatment, and he has not reported since the clearing up of the first condition. There has not yet been an opportunity to give him a thorough examination.

Dr. Whitehouse said that in view of the man's undoubted specific history, even granting that he has an aneurism now, it was doubtless due to specific disease of the walls of the artery; though he were put on antiluetic treatment the prognosis would certainly be very grave.

Dr. Elliot said that judging from the enlargement of the veins, the dyspnoea and the cyanotic condition when lying down, he was more inclined to believe in the existence of an aneurism than any other lesion.

Dr. Klotz recommended giving specific treatment, as that seemed the only thing that could be done.

Dr. Mewborn said that he had presented the case with very little examination, for he had not seen him since a year ago when he had presented him before the Society. He could not agree with Dr. Elliot about hearing a bruit in this case, and was inclined to suspect something in the nature of a neoplastic tertiary formation, which seems to obstruct the superior vena cava, for it obstructs the circulation on both sides of the neck.

Patient Showing Three Distinct Skin Affections. Presented by Dr. Jackson for Dr. Fordyce.

William S., aged 28 years. Four years ago he sustained a frac-

ture of the lower jaw. The scar in the skin is the result of an operation to remove necrosed bone. Diagnosis: Alopecia areata of three months' duration; a late grouped nodular syphilide on the back of the neck and right forearm of three months' duration; Lichen hypertrophicus of the leg. The case is interesting because of these three distinct skin affections.

Dr. Whitehouse said that the man had undoubted hypertrophic lichen planus and syphilis. The question as to whether he had only these two diseases or whether there was also a third present—a true alopecia areata. He was rather inclined to think there were only two conditions present, for though in this stage of syphilis an alopecia of this type is not usual, an alopecia almost indistinguishable from alopecia areata is occasionally observed in late syphilis; he was inclined to regard it as a part of the specific process. He has a case now of late syphilis with spots of alopecia developing behind the ear and in one or two places on the scalp, which have all the clinical appearances of patches of true alopecia areata.

Dr. Jackson said that the question seemed to be whether the disease was a true alopecia areata, or an alopecia areata-like condition due to syphilis. He had seen recently an exactly similar condition of the scalp in a man who had syphilis. The areas are not quite so round or oval such as is seen in typical alopecia areata. He believed that it was alopecia areata occurring in a syphilitic subject, and not a syphilitic alopecia.

Dr. Fox was inclined to think that the lichen planus on the leg was as likely to be the result of syphilis as the alopecia on the head. He agreed with Dr. Jackson that where it follows papular lesions on the scalp it is syphilitic, but he hesitated to regard this case as of syphilitic origin, although appearing on a syphilitic subject. He did not see that there was anything characteristic in the lesion which would lead to a diagnosis of syphilis if the patient had not given a history of syphilis.

Dr. Dade said that he failed to find evidence in this case of any preceding lesions that would have caused the loss of the hair—there was no atrophy or scars such as would have followed lesions of the so-called tertiary stage of syphilis which the present eruption on the body would show this patient to be in. The characteristic and diagnostic "motheaten" appearance of the hair in early syphilis is preceded by an erythematous lesion of the scalp coincident with the roseola of the body, but there was no evidence of any lesion of a luertic nature having preceded the condition here. He would take the case to be one of alopecia areata.

Multiple Sarcomatosis Cutis. Presented by Dr. Dade.

The patient, a Russian sailor, 25 years of age, has been in this country more or less for the past ten years. Twenty months ago he first noticed that his legs began to swell; soon after this the tumors began to appear. Starting on the feet and hands they have increased steadily in number on extremities. He has noticed that some of the tumors have disappeared. Some few weeks ago had an attack of erysipelas of the left leg from which he is now convalescing at Bellevue Hospital. Patient presents on the extremities a multiplicity of sessile tumors varying in size from a pin-head to a kidney-bean and in color from a light café au lait in the smallest tumors—many of the very smallest varying but little from the normal color of the skin to a reddish brown in the largest. The smallest tumors are high up on the thighs

and upper arms, growing progressively larger as they approach the feet and hands. The trunk and face are quite free of lesions. The glands in the groins and axillæ are very much enlarged. There are no hæmorrhagic areas or plaques of induration, the intervening skin between the tumors being normal. The left leg below the knee is considerably enlarged. Notwithstanding the absence of the hæmorrhagic areas and induration, which are so characteristic of idiopathic multiple hæmorrhagic sarcoma of the Kaposi type, it was with the idea of determining whether this still might not be a case of this disease *starting* with the tumor formation that the patient is presented. The slide here under the microscope was made by Dr. Norris, chief of the Bellevue Hospital pathological laboratory, and would bear out this diagnosis. The slide is side by side with another made some time ago by him from a classic case of the disease and the structure in both is identical, the latter specimen showing the more pigment.

Dr. Elliot said that while it might be a typical multiple haemorrhagic sarcoma he would hesitate about making a positive diagnosis until after microscopic examination, for the lesions did not bear any resemblance to any multiple sarcoma that he had ever seen. They were not deep in the corium. Take a single lesion and it was like an ordinary pigmental mole. It had not the denseness that you see in such cases, neither was it haemorrhagic, and he felt that only the microscope would establish positively the diagnosis.

Dr. Jackson said that he had seen only two or three cases of idopathic multiple haemorrhage sarcoma. This case did not look like those he had seen. In them the lesions were raised, firmer, and of a markedly blue or purple color. There was also much more diffused thickening of the skin. In the case before us the individual lesions have a strong resemblance to pigmented warts. He agreed in the diagnosis of multiple non-pigmented sarcoma.

Dr. Johnston said that he had seen the case previously and on clinical and microscopical grounds would unhesitatingly make a diagnosis of multiple haemorrhagic sarcoma. Sections of early tumors show besides fibroblast proliferation and dilated blood spaces, evidence of haemorrhage in the form of the golden granules of haemosiderin. A large part of the pigment disappears in later lesions. It is out of the question to erect on a histological basis like this a new clinical type because patchy infiltration is absent and the assertion of primary haemorrhage is not supported in the case. It is impossible for the haemorrhage to be primary—it must follow on the dilation and new formation of blood spaces. The general adenopathy was no doubt due to diffuse exfoliative dermatitis present some weeks ago.

Two Cases of Lupus Erythematosus.

Presented by Dr. Jackson for Dr. Fordyce.

Maggie Q., aged 44. Lupus erythematosus of the nose and vermilion borders of the lips, of two years' duration. Numerous circular patches of lupus erythematosus on the backs of both hands, which the patient states are of about three weeks' duration. She has not menstruated for two years. Has been much troubled with headache and flushing of the face, and states that she has had chills and fever.

Mrs. F., aged 45. Born in Russia. Diagnosis: Lupus erythematosus of the nose of unusual type. The depressed scars present over the

bridge and sides of the nose, the patient's daughter states, were caused by some caustic application. The lesion shows a considerable amount of infiltration but little scaling. The process is of four years' duration. There is present a small ulcer of the septum just inside the left nostril.

Dr. Mewborn thought the second case was specific in character. The depression in the nose indicating loss of tissue together with the appearance of lesion gave one the impression of a late syphilide.

Dr. Elliot agreed with Dr. Mewborn, as did several other members.

Dr. Whitehouse said that the case made the same impression upon him, but that as Dr. Fordyce was not present it was not known to what treatment the case had been subjected. It looks as though it had had severe treatment, which might have influenced its appearance. It certainly looked specific.

CHICAGO DERMATOLOGICAL SOCIETY.

Meeting of December 27, 1907.

Dr. Frank Hugh Montgomery, Chairman.

Case of Cutaneous Blastomycosis with Possible Systemic Involvement.
Presented by Dr. Hyde.

The patient was a male aged 41 years, and the present disease has existed one year. In the past personal history a fairly good description of syphilis was given. For the past several months the patient has been ill with a generalized infection of some sort which has been called "pneumonia," "malaria," and other disorders. He has irregular attacks of chills and fever at which time he is jaundiced. At present he is rather pale, has lost some weight, is weak, and feels badly. The liver shows enlargement, and the spleen is plainly palpable. The cutaneous lesions on the forehead are typical of cutaneous blastomycosis. Cultures were successfully made and the organism demonstrated in pus before the society. Future developments in the case will be reported.

Case of Cutaneous Blastomycosis of the Scalp in an Elderly Patient.
Presented by Dr. Ormsby.

The patient was a man aged 76 years; duration of the disease two years. The disorder began as a "boil" on the scalp and spread over its area. At the present time the entire area of the scalp on one side has been traversed by the disorder and is chiefly composed of scarred tissue, here and there superficial ulceration being present. At the margins of this area the typical advancing border of blastomycosis is visible. The disease is at present advancing across the forehead, having traversed about one-third of the area.

Histological sections were shown in this case which were typical of the disorder.

The organisms were demonstrated in pus and grown in culture. The extensive involvement of the scalp and the age of the patient are the chief points of interest in this case.

A Case of Giant Urticaria. Presented by Dr. Anthony.

The patient was a man 63 years old. He had suffered from constipation for ten years. The present illness had existed for three years and was characterized by attacks of circumscribed œdema, producing one or two tumors, which were egg-sized or larger and which appeared and disappeared in twenty-four hours. These tumors were observed on the legs, scrotum, forehead, and in other locations. The uvula and larynx have frequently been affected and the tongue has been swollen.

On a few occasions there has been a transitory stricture of the œsophagus, of sufficient intensity to prevent deglutition. He has also had attacks of intestinal colic, during which no tumor could be felt in the abdomen, but which were quite probably produced by circumscribed œdema. These attacks of colic alternated with cutaneous tumors. When presented to the Society there was a tumor of the right cheek and œdema of the upper lip. There has never been a generalized pruritus or dermographia. Occasionally sugar has been present in the urine.

Case of Tuberculosis Verrucosa Cutis, Closely Resembling Blastomycosis. Presented by Dr. Ormsby.

The patient, a woman aged 40 years, presented a lesion on the dorsum of the hand of one year's duration. Two aunts had died of tuberculosis and the patient, previous to the development of the present disorder, nursed a woman who was ill and later died of acute tuberculosis. The disorder on the hand began as a small pustule and spread peripherally. It now occupies an area about $2\frac{1}{2}$ inches by $1\frac{3}{4}$ inches.

The points of difference between this and the cases of blastomycosis present were these: There is less of the inflammatory aureola, no miliary abscesses in the border, and the lesion, as a whole, appears more indolent. Much purulent material can be expressed from between the warty and papular prominences in the center of the lesion, and as a whole it appears to be less active than the cases of blastomycosis.

An Unusual Case of Syphilis. Presented by Dr. Hyde.

The patient was a woman 60 years of age, of the dispensary class, with an indefinite history. She stated that the disorder now under consideration had been present for fifteen years and the lesions occupied an area of the extensor surfaces around both knees. The lesions were of two or three distinct types. Over the left knee were patches of flat, bluish papules forming irregular scaling areas which appeared almost identical with those of lichen planus. Over the right knee extending somewhat also to the posterior surface was a large area, in part occupied by scar tissue, in part by two large tumor-like projections covered with heavy crusts, and in part by several reddish papulo-tubercles, covered with scales. The picture on this knee was not unlike that of sarcoma.

With specific treatment the patient made marked improvement in three weeks.

SECTION ON DERMATOLOGY.

N. Y. Academy of Medicine.

Stated Meeting, held Jan. 7, 1908.

Dr. A. R. Robinson in the Chair.

Case of Lichen Ruber. Presented by Dr. Howard Fox.

The patient is fifty-six, single, seamstress. Swiss. The eruption first appeared about the naso-genial fold, the temporal regions and knuckles while coming to the United States about twenty-four years ago. She is never entirely free from lesions, being worse in summer and better in winter. Since the first attack she has suffered from many exacerbations which last from three to six months as a rule. Several times she has remained almost entirely well during an entire summer, though as a rule she is worse during the spring and summer. She has taken Fowler's solution on one occasion for seven months continuously without any apparent benefit. She has never received any benefit from local treatment with ointments and lotions. Sea air and bathing seem to have done her the most good. At the beginning of each attack she feels generally weak and nauseated.

The eruption at present is confined chiefly to scaly, dry patches in the scalp, a thickened dry, reddened condition of the face and moderate thickening of skin of the hands with hyperkeratosis of the nails.

Case of Dermatitis Herpetiformis with Arsenical Neuritis and Pigmentation. Presented by Dr. A. Schuyler Clark.

The patient is a male, 28 years old, born in the United States, single, a clerk by occupation. His family are not very robust as a rule, but possessed of much endurance and have no tuberculosis history. The patient himself was never stout, but always well and wiry, and he has had no severe illness except occasional colds and two attacks of pleurisy. He has always been a hard worker, and was frequently so tired he could not sleep. He gives no history of venereal disease, he is not alcoholic, and he does not use tobacco. Two years ago he noticed little pimples and water blisters on the lumbar regions and buttocks, and later on the legs and arms, involving mostly the flexor surfaces, and soon also appearing on the neck, body and face. There is never any soreness, but at first much itching and burning, which were relieved by the rupture of the vesicles. Eleven months ago he began to use Fowler's solution, gradually working up to 25 minims three times a day, when the eruption was perfectly controlled. Locally, the only application that relieved the patient was the official 50% Ung. Picis Liq., which seemed to cause some inflammatory reaction, with rupture of vesicles and relief. After four months, the patient had abdominal pains and diarrhoea, with puffiness under the eyelids and loss of weight, and

he was forced to reduce the dose to 10 drops. This reduction of the dose was followed by a reappearance of the eruption. After the constitutional symptoms subsided, the dose was again increased, and in two months more the patient realized that his feet and hands were numb, that his ankles were swollen, and that there was some loss of strength in these parts. These symptoms became more pronounced, even in spite of rest, good food, and country air until three months ago the patient was forced to stop his arsenic. The eruption soon then reappeared, and coming under my care, he was treated for one month with intestinal antiseptics and laxatives, and the amount of his proteids reduced, with considerable improvement in his neuritis, but little or no improvement in the eruption and itching. The patient then appeared as a fairly well nourished man, on whose body, extremities, face, and scalp were seen many small papules, vesicles, and scratched points, with a tendency to group, small whitish level scars and small dark pigment spots. The skin of the covered parts was very decidedly pigmented, and that of the penis and scrotum was very dark. He said that this had come on in the past four months, and his complexion was originally very light. His bowels were regular, his tongue clean, his digestion good. Two months ago iron and strychnine was given in considerable doses, with a liberal and even a forced diet. This was followed by improvement in his general health, but little or no alleviation in his disease, and at his request, though he still had some slight numbness and tingling in his hands and feet, one month ago to his tonic treatment was added gradually increasing doses of arsenic, which almost immediately began to control his disease, but unfortunately almost as quickly began to increase his numbness and tingling, and loss of power in his extremities. On the advice of a neurologist, it was decided not to use the arsenic further, because of the liability of producing a more or less permanent injury to his nervous system; and then three weeks ago aspirin was given in generous doses, together with iron, strychnine, forced feeding, and fat. After three weeks the patient appears before you very comfortable and well, and gaining weight and strength, with a gradual improvement in his disease, and without, so far, any exacerbation.

Dr. Gottheil remarked that he had seen exactly similar pigmentation in many cases not dermatitis herpetiformis, especially in pediculosis corporis. He did not believe this to be a case of arsenical pigmentation, the only spots resembling that condition being those of the sheath of the penis.

Dr. Robinson said that the first well marked case he had observed was cured promptly by arsenic. An illustration of this case appeared in the *Journal of Cutaneous and Genito-Urinary Diseases* and also in Dr. Duhring's "Cutaneous Medicine." In subsequent cases he had not been able to obtain such a result. In one very severe case prompt action followed the use of antipyrine and quinine and the same result was obtained in about six subsequent attacks of the disease in this person. He considered that combination the most uniformly reliable in such conditions.

Dr. Clark, closing the discussion, said that the patient had always obtained great relief from large doses of arsenic, but that he had taken such large quantities of the drug, that he was in danger of serious arsenical neuritis if the treatment were continued; he had indeed already shown very severe and persistent symptoms of it. Dr. Clark hoped to get good results from salicin, and mentioned its near relationship to antipyrine and its action as an intestinal antiseptic. He had made 25 spinal injections of cocain without ill effect, and would not hesitate to use it in this case, if necessary. He had tried sulphur ointment, without benefit. He said that the pigmentation was subsequent to the taking of arsenic, the skin having been white before.

A Case of Epithelioma of the Face. Presented by Dr. Robinson.

An extensive epithelioma of the face, occupying a large part of the left cheek, including the entire left side of the nose, and extending above the bridge of the nose and into the inner canthus. The treatment was with caustic and Roentgen rays. The patient was previously shown before the New York Dermatological Society (See Vol. 26, page 84 of this journal).

Discussion: Dr. Gottheil asked why the cure should not be completed by the use of the X-ray.

Dr. Clark said that the bone seemed to be involved in two places, and that therefore there was no hope of cure by the X-ray.

In closing Dr. Robinson said he doubted if the bones were already invaded, although he expected necrosis from the treatment. He would not rely upon the X-rays in such a case, preferring caustics, but he believed the X-ray would act much better on the pathological tissue if it was first made more vulnerable by the application of caustics. It was a very unfavorable case, but he believed there was a fair chance for a cure.

An Apparatus for the Rapid and Economic Making of CO_2 Snow. Presented by Dr. Dana Hubbard.

The apparatus consists of ordinary plumbing material, a coupling one-half inch to connect on ordinary drum, extending at opposite end to one inch. Into this is screwed a three-inch nipple, one-inch piping, and at distal end is a cap, which is easily screwed on and off nipple.

In the interior is a tubing made of perforated brass metal as thick as heavy paper: this is cut in half and on one side is fitted a piano hinge. Over this metal tube of brass with its hinge is fitted a chamois covering, inside and out, with a single piece left on one end to wrap about tube, and at one end the chamois is left long so as to fold on itself and close distal end of tube.

The chamois covered brass tube is slipped into the nipple and cap put on, then the apparatus is screwed on to drum containing the CO_2 and the gas turned on very slowly. This is continued until the gas escaping from the holes in the nipple is full of white flakes when the inner tube is removed and opened and there is found a tube of snow which can be used as made or remodeled as desired.

THE PHILADELPHIA DERMATOLOGICAL SOCIETY.

The regular monthly meeting of the Philadelphia Dermatological Society was held at the Polyclinic Hospital, on Tuesday evening, January 21, 1908, at 8:30 o'clock. Dr. M. B. Hartzell, presiding.

Lichen Planus. Presented by Dr. Stelwagon.

The patient was a baby girl of nine months. The parents stated that the eruption originally started five weeks ago, with a slight outbreak on the dorsal surface of the forearms and the wrists. At the present time the entire cutaneous surface is involved, excepting the palms of the hands and the soles of the feet. The lesions consist of small to large pinhead-sized, flat, irregularly shaped, violaceous, and reddish papules. Some of these papules are umbilicated. Pruritus is marked; the baby is constantly scratching. The lips and the mucous membranes of the mouth are uninvolved. When the eruption was first examined, syphilis, and prurigo were thought of, but as the soles and palms were free, and as the lesions were umbilicated, the above diagnosis was decided by those present as correct. It should be stated that the parents as well as the infant are in robust health.

Dermatitis Gangraenosa. Exhibited by Dr. Davis.

The patient was a male, sixty years of age, anemic, and in poor physical condition. He stated that the disease had existed for only two weeks. On examination three distinct patches were noted: one on the right side of the chest, in the axillary line, over the floating ribs; the second within the umbilicus; and the third, at the junction of the under surface of the penis with the scrotum. The patch on the right side was oval in shape and two inches in diameter. The lesion in and around the umbilicus was dime in size, while that on the scrotum was irregular in shape, and as large as a half-dollar. A patch of the exact dimensions as that on the scrotum developed on the under surface of the penis, where the two touched. At the point on the umbilicus where the previously described lesion touched, another patch with the same characteristics developed. The mode of production of these two other patches shows the extreme auto-inoculability of the lesions. The ulcers are through the whole skin. They are punched out, and are covered with a typical black, foul-smelling crust, from under which exudes a thick, creamy pus. The skin surrounding these lesions shows marked congestion. The smears and cultures which were made showed abundant staphylococci and streptococci. The urine examination was negative for sugar. The patient suffered no pain, although the lesions were somewhat tender on pressure. The process appeared to be due to some virulent agent within the diseased areas. Thorough cauterization was suggested as the best means for arresting the process.

Mycosis Fungoides. Presented by Dr. Hartzell.

The patient was a male of fifty-six years, of healthy appearance, and born in Ireland. The most of his life had been spent in the country, being a gardener by training. This disease started six years ago as a generalized erythemato-squamous eczematoid eruption, with marked pruritus. This eruption became progressively worse, accompanied by the development of flat, button-like tumors upon the trunk and the extremities. At the present time the eczematous condition is markedly seen. About a dozen of these button-like lesions are found upon the trunk and extremities, and a few fungating, ulcerating tumors are noted on the left forearm. The patient's disease has been somewhat checked by frequent treatment with the X-rays. This case is to be reported in detail later.

Annular Syphilis. Presented by Dr. Hartzell.

The patient was a well built negro of thirty years. This disease had started eight weeks previously, with a chancre on the anterior surface of the penis, just behind the glans. The present eruption started two weeks ago. At this time the entire trunk and the extremities are covered with an abundant macular eruption. The face, however, is almost entirely involved by an annular eruption, the lesions being from split-pea to large pinhead in size, and so numerous that the rings overlap, forming grotesque, mosaic-like figures. The induration of the lesion on the penis can still be felt, and when the foreskin is retracted the characteristic "flop" is noted. All the concomitant signs of syphilis are present.

Lichen Planus. Presented by Dr. Stelwagon.

The patient was a woman of thirty-nine years, and born in Russia. She was presented at the October meeting of the society, with a generalized lichen planus, of four months' duration. There was scarcely a portion of the cutaneous surface which was not involved, including the face, palms, and soles. The case was shown, to prove the great efficacy of arsenic in certain patients. At the present time there is no lesion on the entire cutaneous surface, and all of the marked pruritus has entirely disappeared. Fowler's solution was the only drug used, no local application being given.

Chancre of the Lip. Presented by Dr. Stout.

The patient was a negro of thirty-one years. The lesion started as a small abrasion of the lower lip, five weeks ago. At the present time there is a half-dollar-sized, densely infiltrated, raised, inflammatory, yellowish-red lesion on the center of the lower lip. This lesion is on the vermilion border and also on the skin surface just below, and is covered with a pseudo-membrane. Because of the marked induration, the mucous membrane of the lower lip is drawn somewhat downward. The submaxillary and sublingual glands are markedly enlarged, being from split-pea to hazelnut in size. The throat is somewhat congested, and the patient

complains of pain in the muscles and the joints. The eruption has not as yet appeared, but those present were unanimous as to the diagnosis.

Tuberculosis Cutis Verrucosa. Exhibited by Dr. Hartzell.

The patient was a young woman with a healthy family history. This condition originally started two years ago, with small papular lesions on the areas now affected. At the present time there are three distinct patches: one on the middle finger of the left hand, and two on the index finger of the right hand. The patches are dime in size, sharply marginate, raised, verrucous, and studded with numerous minute openings, from which exudes a yellowish-white secretion. One of these lesions is located on the middle finger of the left hand, on the dorsal surface, just at the base of the finger nail; the other two are on the index finger of the right hand, on the dorsal surface, one over the metacarpal-phalangeal articulation, and the other over the articulation of the first and second phalangeal bones. The secretion oozing from the miliary openings was found upon microscopic examination to consist of epithelial cells undergoing fatty degeneration. No history of infection could be obtained. No blastomyces or tubercle bacilli were found in the sections made.

Folliculitis Decalvans (?) Presented by Dr. Schamberg.

The patient was a female, twelve years of age. This condition had supposedly started three years ago, as a somewhat pustular eruption, the pustules being pierced by hairs. At the present time there are about one-half dozen, split-pea to three-cent-piece sized lesions, on the vertex of the scalp. These patches are scar-like and entirely denuded of hair, being slightly depressed. The scalp surrounding the lesions is noted to be scaly. Several diagnoses were suggested, such as an unusual form of ringworm, favus, and the atropic, scar-like condition following deep-seated ecthyma. So fungus was found upon microscopic examination.

Verruca of the Tongue. Presented by Dr. Schamberg.

The patient, a woman of twenty-two, had first noticed this condition two years previously. Upon the left side of the anterior surface of the tongue, one inch back of the tip, was located a typical verruca. The base was a small pinhead in size, while the point was slightly smaller. The wart was only slightly raised above the mucous membrane of the tongue. A wart was located on the index finger of the left hand, and another on the left side of the lower lip, just at the place where the verruca on the tongue would touch, in the event of protrusion. The verruca first appeared on the finger, then on the tongue, and finally on the lip. The point was brought out in the discussion, that verrucæ are frequently seen upon the mucous membranes of dogs.

Atrophy of the Skin, Associated with an Urticarial-like Eruption. sented by Dr. Schamberg.

This interesting case was exhibited before the November meeting of

the society. At that time the entire face, neck, the upper part of the back, and the shoulders were covered with pin-point to small pinhead sized scars; really minute, non-infiltrated depressions. The skin was pliant and smooth. Minute telangiectases were noted on the shoulders. There was no scaliness or subjective symptoms. The face was somewhat congested, in the shape of a bat's wing. At the present time the conditions remain almost the same as before. The congestion has, however, almost disappeared from the face, and the other lesions are slightly flatter. An urticarial-like eruption has now been added to the other condition; dermographism is present, angio-neurotic-like swelling, and a wheal formation. No satisfactory diagnosis was arrived at by those present.

Tinea Sycosis, An Unusual Case of. Presented by Dr. Stelwagon.

The patient, a healthy male of thirty-six; had first noticed this eruption six months previously. The disease started as small macular patches in the bearded region. These lesions increased in size, until now there are about a dozen hazel- to walnut-sized tumors, upon the chin, bearded region of the neck, the uper lip, and also the vermilion surface of both lips. The tumors are markedly boggy and inflammatory, and some of them have broken down, forming ulcerated areas, with serpigenous borders. No microscopic examination had been made, but clinically the diagnosis was clear. Ringworm attacking the mucous membrane is very unusual, so this case involving the lips is of great interest.

Leukoplakia followed by Epithelioma. Presented by Dr. Finck.

The patient was a male fifty-five years of age. According to the patient, the first white patch was noticed on the lip one year ago. This patch rapidly increased in size until the entire lower lip became involved; the upper lip also being somewhat affected. Six months ago. or six months after the leukoplakia commenced, a pin-point ulceration appeared on the left side of the lower lip. This ulceration has been progressive, until at the present time there is a dime-sized, ulcerated lesion, with a raised, "pearly" border, upon the left side of the lower lip. No patches were found within the mouth. The man stated that he had always been a moderate smoker. Dr. Hartzell stated in the discussion that Butlin mentioned in a recent paper the fact that epithelioma follows leukoplakia in about one-half of the cases. Dr. Schamberg exhibited the case, in the absence of Dr. Finck.

Frank Crozer Knowles, M. D., Reporter.

MANHATTAN DERMATOLOGICAL SOCIETY

61st Regular Meeting, June 7, 1907.

Dr. E. Pisko, Chairman.

Spastic Cerebral Palsy in a Heredo-Syphilitic Child. By Dr. B. F. Ochs.

Jerome N., 7 years old, healthy at birth, at five months developed an eruption which appeared first on buttocks, then spread over the rest of the body. Eruption persisted for nine months, inunctions were then given and the child got well and remained so for two years. The mother then noticed that the child began to fall and tumble, always to the right. This was followed by convulsions, fever, and in about a week's time the entire right side of the child was paralyzed; with the loss of the powers of speech and locomotion. These conditions have persisted to the present time, but with very little improvement. The child shows all the signs of aspastic paralysis, and does not talk. Around the mouth are the characteristic radiating scars. The child has the characteristic notched teeth of the Hutchinsonian type.

In the discussion it was the opinion of most of those present that whilst there were undoubted evidences of the existence of heredo-syphilis, there was not sufficient proof of the dependence thereon of the spinal cord involvement.

Lupus Vulgaris Incipiens. By Dr. I. P. Oberndorfer.

Margaret E., aged 4 years, has had since eight months old a lesion on her right cheek, which began as a small pimple. In spite of treatment other similar pimples appeared in the neighborhood of the original lesion. At the present time there is a quarter-of-a-dollar sized group of conglomerate, subcutaneous, soft, brownish tubercles at the spot. No other disease. No tuberculosis in the family.

For treatment Dr. Oulmann suggested the high frequency current applied with the carbon electrode.

Dr. Geyser said, by the direct application of the X-ray, with safety tube, in contact with the skin, the growth could be removed without scarring. The reporter advocated surgical removal as preferable to electrolysis, to any of the chemical caustics, to liquid air, or to the carbon dioxide snow. He proposed to excise the growth.

Paronychia Syphilitica. Presented by Dr. L. Oulmann.

R. T., male, aged 29 years, had a chancre at Christmas, 1906, followed by usual secondary manifestations. At the present time, patient has mucous patches on tongue, and soft palate and a squamous syphiloderm of the palms in addition to the manifestations of and about the nails, for which condition he is presented. The nails have a dull appearance, with transverse ridges; the entire nail appears to be thinned.

Discussion: The general opinion was that the lesions of the nails were

those due to the patient's occupation. Dr. Pisko remarked that in many instances the patients have lesions of their nails but do not pay any attention to them; when patient acquires a syphilitic infection, the condition is then regarded as being due to the infection.

Epithelioma of the Face, Treated with the Cornell Tube (X-ray), resulting in Improvement. By Dr. A. C. Geyser.

Mr. A. K., printer, aged 69 years. Nineteen years ago he had a mole cut by a barber. The wound never completely healed, except for a few weeks, bleeds very readily. There is no glandular involvement. Shown for improvement resulting after seven X-ray exposures, direct contact with the Cornell tube, 5-6 minutes at each treatment.

Discussion : Dr. Gottheil, while agreeing with the diagnosis of epithelioma, could not understand why no glandular involvement was not present.

Dr. Geyser said that, in his experience, he has found that glandular involvement in squamous epithelioma was the exception.

Epithelioma of the Tongue, Treated with the X-ray Without Benefit. By Dr. L. Oulmann.

Mr. T. F., carpenter, aged 54 years. His present complaint dating back two years, began with pain and burning sensation in tongue, and he was at that time advised to have a number of his teeth removed. Six months later he had 11 teeth removed, but the condition did not improve. In January of this year a portion of the diseased area of the tongue was removed for microscopical examination, the wound never healed. On left side of tongue was a small sized hard sensitive swelling; glands now began to enlarge. Patient refusing operation, the X-ray was applied for a period of two months with no result, the mass grew larger and the glandular involvement progressed. Operation was again advised, refused; the exposures were continued; mass is now stationary. Patient has lost no weight. Microscopical examination showed carcinoma.

Discussion : Dr. Geyser advised the use of a tube of high penetrating power, at least two feet away, each exposure lasting from ten to fifteen minutes.

M. B. Parounagian, M. D., Secretary.

BOOK REVIEW.

Traité Elémentaire de Dermatologie Pratique, comprenant les Syphilides cutanées. By L. Brocq, Medicin de L'Hopital Saint Louis, Paris. In two volumes, 222 illustrations in text. *Octave Doin, Publisher,* Paris, 1907.

The number of dermatological treatises that have appeared in the last few years is truly colossal. It would seem that after the encyclopaedic "Pratique Dermatologique," edited by Besnier, Brocq and Jacquet, and representing the French School, that no single French author would attempt to cover the ground alone in so exhaustive a manner. It cannot be possible that our conception of

the word elementary could be the same as that of the author. A work of nearly 1700 pages cannot seriously be called elementary. The book is fully up to date and purposely omits references which have been given in the Pratique and only gives references to the literature that has appeared since then. In a way the book owes its principal interest to Brocq's theory of cutaneous reactions, and to his graphic or rather "geographic" representations of the intermediary types between the varied groups of dermatoses.

Volume I. is devoted to generalities and to true morbid entities. By morbid entities Brocq wishes to consider cutaneous affections not with special reference to the lesions which, whether regarded clinically or by the microscope, possess no other value than anatomic localization of the eruptive accident; but seeks to classify them according to their etiological cause, such as syphilitic, tubercular mycotic, parasitic, etc. This group is subject to constant enlargement as our knowledge of etiology becomes more extended.

The second volume is devoted to cutaneous reactions, and, to avoid confusion, cutaneous reaction which are due to known external causes are placed in the first volume as morbid entities. By pure cutaneous reactions Brocq refers to: "A considerable group of dermatoses which seems to us to correspond to morbid states proceeding from the patient himself, or which may be, more or less, considered so in the present state of our knowledge, while awaiting further discoveries."

This by no means indicates that Brocq is going backward to the theory of diatheses, although their existence as modifying the modes of production of cutaneous reactions is not denied. Brocq insists that cutaneous reactions are or may be considered the expression of auto-intoxication.

After all, Brocq's systematization does not help us greatly to understand the cause of these cutaneous reactions—we must interrogate the various organs and their functions as before, but to give the skin manifestations a name we must rely upon the clinical syndrome aided by the histo-anatomical findings. It is still the method of Willan slightly modified by our latest scientific findings. The method of graphic representations of bonds of affinity between widely separated groups seems more apt to confuse than to enlighten the student. It is our natural tendency to approach the symptoms between separate dermatoses; what the logical diagnostician looks for is not what Brocq calls "cas de passage," but strongly differentiated symptoms that will enable us to say it is not this disease with these distinct symptoms, but that disease with a distinct syndrome. These slight points of criticism are entirely overbalanced by the erudition of the work, the masterly spirit of systematization, the unity of carrying out the theory despite a number of diseases included in the cutaneous reactions which in the humble opinion of the reviewer are distinct morbid entities, for example, mycosis fungoides and cancer.

The work is well but not too profusely illustrated by the excellent photographs taken for the most part by Dr. Sottas. The photomicrographs are not so well done.

A. D. M.

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